

Serial No. 10/736,921  
60246-220; 10691AMENDMENTIN THE SPECIFICATION:

Please amend paragraph 23 as follows:

Figure 2 schematically illustrates an air purification system 20 employed to purify the air in the building—or, vehicle or other structure 10 by oxidizing contaminants, such as volatile organic compounds and semi-volatile organic compounds, carbon monoxide to water, carbon dioxide, and other substances. For example, the volatile organic compounds can be aldehydes, ketones, alcohols, aromatics, alkenes, or alkanes. The air purification system 20 also decomposes ozone to oxygen. The air purification system 20 can purify air before it is drawn along path 16 into the HVAC system 14 or it can purify air leaving the HVAC system 14 before it is blown along path 18 into the interior space 12 of the building or vehicle 10. The air purification system 20 can also be a stand alone unit that is not employed with a HVAC system 14.

Please amend paragraph 24 as follows:

A fan 34 draws air into the air purification system 20 through an inlet 22. The air flows through a particle filter 24 that filters out dust or any other large particles by blocking the flow of these particles. The air then flows through a substrate 28, such as a honeycomb 28. In one example, the honeycomb 28 is made of aluminum or an aluminum alloy. Figure 3 schematically illustrates a front view of the honeycomb 28 having a plurality of hexagonal open passages 30 or channels 30. The surfaces of the plurality of open passages 30 are coated with a layered photocatalytic/thermocatalytic coating 40.

Please amend paragraph 46 as follows:

After passing through the honeycombs 28, the purified air then exits the air purifier through an outlet 36. The walls 38 of the air purification system 20 are preferably lined with a reflective material 4241. The reflective material 4241 reflects the ultraviolet light onto the surface of the open passages 30 of the honeycomb 28.

Serial No. 10/736,921  
60246-220; 10691

Please amend paragraph 49 as follows:

By employing a honeycomb with a metal oxide doped titanium dioxide coating, a honeycomb with a gold/titanium dioxide coating, and a third honeycomb ~~5456~~ with a manganese oxide/titanium dioxide coating, carbon monoxide, ozone, volatile organic compounds, and semi-volatile organic compounds can be oxidized and destroyed. Therefore, the air purification system 50 including the metal oxide doped titanium dioxide coated honeycomb, the gold/titanium dioxide coated honeycomb, and the manganese oxide/titanium dioxide coated honeycomb 60 can perform the same function as the layered coating having a layer 48 of manganese oxide/titanium dioxide, a layer 46 of gold/titanium dioxide, and a layer 42 of metal oxide/titanium dioxide.